

AMENDMENTS TO THE CLAIMS

In the claims, please amends claims as follows:

1. (currently amended) ~~An *in vivo*~~ A process for delivering a polynucleotide to a skeletal muscle cell ~~in a limb~~ of a mammal in vivo, comprising:
 - a) ~~inserting the polynucleotide in a solution into a blood vessel in the limb;~~
[[b]] a) applying non-invasive external pressure against the skin of [[the]] a limb of the mammal such that blood flow to and from the limb is impeded; [[and,]]
 - b) inserting the polynucleotide encoding a protein operably linked to a promoter in a solution into a blood vessel in the limb in vivo distal to the applied pressure; and,
 - c) administering immunosuppressive drugs to the mammal;
thereby delivering such that the polynucleotide is delivered to the skeletal muscle cell in the limb distal to the applied non-invasive external pressure and expressing the polynucleotide is expressed in the skeletal muscle cell at detectable levels.
2. (original) The process of claim 1 wherein the polynucleotide consists of naked DNA.
3. (original) The process of claim 1 wherein the polynucleotide is selected from the group consisting of a viral vector and a non-viral vector.
- 4-5. (canceled)
6. (previously presented) The process of claim 1 wherein the limb skeletal muscle cell consists of a leg skeletal muscle cell.
7. (previously presented) The process of claim 1 wherein the limb skeletal muscle cell consists of an arm skeletal muscle cell.
- 8-10. (canceled)
11. (previously presented) The process of claim 7 wherein the arm skeletal muscle cell is selected from the group consisting of palmaris longus muscle cell, pronator teres muscle cell, flexor carpi radialis muscle cell, flexor carpi ulnaris muscle cell, and flexor digitorum superficialis muscle cell.
12. (previously presented) The process of claim 7 wherein the arm skeletal muscle cell is selected from the group consisting of flexor digitorum profundus muscle cell, and pronator quadratus muscle cell.
- 13-15. (canceled)
16. (previously presented) The process of claim 7 wherein the arm skeletal muscle cell is selected from the group consisting of brachioradialis muscle cell, extensor carpi radialis

longus muscle cell, extensor carpi radialis brevis muscle cell, extensor digitorum muscle cell, anconeus muscle cell, extensor carpi ulnaris muscle cell, and extensor pollicis longus muscle cell.

17. (previously presented) The process of claim 7 wherein the arm skeletal muscle cell is selected from the group consisting of supinator muscle cell, abductor pollicis longus muscle cell, extensor digiti secund et teriti muscle cell, and extensor digiti quart et minimi muscle cell.
18. (previously presented) The process of claim 7 wherein the arm skeletal muscle cell consists of a hand skeletal muscle cell.
19. (previously presented) The process of claim 18 wherein the hand skeletal muscle cell consists of a thumb muscle cell.
20. (previously presented) The process of claim 18 wherein the hand skeletal muscle cell is consists of an interosseus muscle cell.
- 21-23. (canceled)
24. (previously presented) The process of claim 6 wherein the leg skeletal muscle cell is selected from the group consisting of gastrocnemius muscle cell and soleus muscle cell.
25. (previously presented) The process of claim 6 wherein the leg skeletal muscle cell is selected from the group consisting of popliteus muscle cell, flexor digitorum longus muscle cell, flexor hallucis longus muscle cell, and tibialis posterior muscle cell.
- 26-27. (canceled)
28. (previously presented) The process of claim 6 wherein the leg skeletal muscle cell consists of a foot skeletal muscle cell.
29. (previously presented) The process of claim 6 wherein the leg skeletal muscle cell is selected from the group consisting of tibialis anterior muscle cell, extensor hallucis longus muscle cell, extensor digitorum longus muscle cell, and abductor hallucis longus muscle cell.
30. (previously presented) The process of claim 6 wherein the leg skeletal muscle cell is selected from the group consisting of peroneus longus muscle cell and peroneus brevis muscle cell.
31. (previously presented) The process of claim 28 wherein the foot skeletal muscle cell is selected from the group consisting of extensor digitorum brevis muscle cell and extensor hallucis brevis muscle cell.
- 32-33. (canceled)

34. (previously presented) The process of claim 1 wherein applying non-invasive external pressure against the skin of the limb consists of applying a tourniquet around the limb.
35. (currently amended) The process of claim 1 wherein applying non-invasive external pressure against the skin of the limb consists of applying a cuff ~~around the limb~~.
36. (previously presented) The process of claim 35 wherein the cuff consists of a sphygmomanometer.
- 37-38. (canceled)
39. (currently amended) ~~An *in vivo*~~ A process for delivering ~~polynucleotides~~ a polynucleotide to a skeletal muscle cell ~~cells in a limb~~ of a mammal in vivo, comprising:
- a) ~~inserting the polynucleotides into a blood vessel in the limb of the mammal; and,~~
[[b]] a) applying pressure ~~to the limb wherein the pressure is applied~~ non-invasively against the skin of the limb thereby impeding blood flow into and out of the limb;
 - b) ~~inserting the polynucleotides~~ the polynucleotide encoding an expressible sequence operably linked to a promoter in a solution into a blood vessel in the limb of the mammal in vivo distal to the applied pressure;
 - c) ~~such that the delivering the polynucleotides are delivered~~ to the skeletal muscle cell ~~cells~~ of the limb distal to the applied pressure; and,
 - d) ~~expressing expressed the polynucleotide~~ in the skeletal muscle cell ~~cells~~ to detectable levels;
- wherein said applying, said inserting, the polynucleotide, applying pressure, and said delivering and said expressing the polynucleotide does do not diminish subsequent use of the limb by the mammal.
40. (previously presented) The process of claim 1 wherein administering immunosuppressive drugs consists of repetitive administration of immunosuppressive drugs.
41. (previously presented) The process of claim 1 wherein administering immunosuppressive drugs consists of administering immunosuppressive drugs within one day of injecting the polynucleotide.
42. (previously presented) The process of claim 1 wherein administering immunosuppressive drugs is selected from the group consisting of administering immunosuppressive drugs orally and administering immunosuppressive drugs by subcutaneous injection.